"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Ivanov V.F.

AUTHOR: Ivanov, V.F., Deputy Chief Mechanic 130-8-13/20

TITLE: Repair of Roller-table Housings (Remont korpusov rol'gangov)

PERIODICAL: Metallurg, 1957, No.8, pp. 32 - 33 (USSR).

ABSTRACT: The author describes the deformation of the housing of the bearings of rolling-mill roller tables at the "Azovstal'" Works and the way this has been rectified. The deformed surfaces in contact with the bearings were metallized not as a whole (which would have caused distortion of the castings) but in separate circular zones 10-12 mm in diameter and 3-4 mm high, the zones being arranged in a chessboard manner with an interval of 15-18 mm (Fig.2). Quality-steel electrodes of diameter not exceeding 3 mm were used for the metallisation, giving a somewhat harder surface of contact (the area being 35-40% of the total surface of the outer casing of the bearing). The time for repairing a pair of housings is 8-10 hours. The author recommends the use of this system for other expensive bearing-supporting items of metallurgical equipment. There are 4 figures.

ASSOCIATION: "Azovstal'" Works (Zavod "Azovstal'")

AVAILABLE: Library of Congress.

Card 1/1

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.F.

Increasing the durability of clamping mechanisms. Biul.TSNIICHM no.17:40-42 (325) '57. (MIRA 11:4)

1.Zavod "Azovstal'."
(Bolts and nuts)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.F.; IOFA, Z.A.

Kinetics of the electroreduction of iron on the dropping mercury electrode. Dokl.AN SSSR 137 no.5:1149-1152 Ap '61. (MIRA 14:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom A.N.Frumkinym.
(Iron) (Reduction, Electrolytic)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

S/133/61/000/001/014/016
A054/A033

AUTHOR: Ivanov, V. F.

TITLE: News in Brief

PERIODICAL: Stal', 1961, No. 1, p. 73

TEXT: 1) At the Novosibirskiy metallurgicheskiy zavod (Novosibirsk Metallurgical Plant) it was found unnecessary to limit the end temperature of rolling for medium carbon steels delivered in hot rolled condition (according to ГОСТ -GOST 914 - 56 and 4041-48). For hot rolled sheets, produced in accordance with GOST 1577 - 42 and having the properties of tempered steel, the temperature at the end of rolling should be under 800°C while that of sheets showing properties of normalized steel should not be lower than 880°C. 2) Enriching protective kerosine gas with benzene vapors (more than 140 g/cub m) helps to prevent the decarbonization of tool steels. When adding less than 140 g/cub m benzene, the steel decarbonizes. In the gas medium of the muffle zone the CO_2 content decreases from 8.2 to 6%, CO increases from 11 to 19.2% during the tempering of steel, when the protective kerosene gas is enriched with benzene vapors. The content of heavy hydrocarbons also grows.

Card 1/1

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.F.; IOFA, Z.A.

Formation of amalgams of iron group metals on a dropping mercury electrode. Dokl. AN SSSR 140 no.6:1368-1371 O '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom A.N.Frumkinym.
(Amalgams) (Electrodes, Dropping mercury)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.F.; IOFA, Z.A.

Effect of the adsorption of surface active ions on the reduction of iron group metals on the dropping mercury electrode. Zhur.-fiz.khim. 36 no.5:1080-1083 My '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Surface-active agents) (Metals) (Reduction, Electrolytic)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.F., IOFA, Z.A.

Nonpolarographic peaks on a dropping mercury electrode in the electroreduction of iron group metals. Zhur. fiz. khim. 38 no.4:1026-1030 Ap '64. (MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.F., doktor tekhn. nauk, prof. [deceased]; ONUFRIYEV, N.M., doktor tekhn. nauk, prof.; ROT, A.V., kand. arkh. dots.; GRIGOR'YEVA, A.M., arkh.; ZAKHAR'YEVSKAYA, M.A., kand. tekhn. nauk; ZEL'TEN, L.V., kand. arkh.; KRAVSKOY, V.A., arkh.; KUNTSMAN, M.S., kand. arkh. dots.; LOKHANOV, G.I., arkh.; NIKOLAYEV, A.I., doktor tekhn. nauk, prof.; OSIPOV, Ye.A., kand. tekhn. nauk, dots.; SAKHNOVSKIY, K.V., doktor tekhn. nauk prof.; TRULL', V.A., kand. tekhn. nauk, dots.; KARRO V.M., inzh., nauchn. red.; MARGOLIN, A.G., inzh., nauchn. red.

[Elements of buildings and structures] Konstruktsii zdanii i sooruzhenii. Leningrad, Stroiizdat, 1965. 487 p. (MIRA 18:12)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., kand. tekhn. nauk

Initial cofferdamming of the Vakhsh River in construction of the Golovnaya Hydroelectric Power Station. Gidr. stroi. 33 no.2:23-26 F '63. (MIRA 16:4)

(Vakhsh River—Cofferdams)
(Golovnaya Hydroelectric Power Station)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

1. IVANOV, V. G., Prof.

2. USSR (600)

4. Horses - Diseases

7. Pathologoanatomical diagnosis of infectious anemia of horses. Trudy Vses.inst.eksp.vet. 19 no. 11 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G.

Sex ratio in the progeny of animals. Uch. zap. Kab.-Balk. gos. un. no.12:187-209 '62. (MIRA 16:6)

(Sex—Cause and determination)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

BULAKOVSKAYA, Ye.I., inzh.; BOGOMOLOV, D.F., inzh.; IVANOV, V.G., kand. tekhn.nauk; POYGIN, B.V., inzhener-polkovnik

Assembly planning and use of industrial methods in the assembly of indoor facilities. Vod.i san.tekh. no.4:15-16 Ap '62. (MIRA 15:8)

(Plumbing)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., insh.

About "relayless" visual and audio signaling circuits. Energetik 8 no. 10:6-8 O '60. (MIRA 14:1)
(Signals and signaling)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, Viktor Gavrilovich, inzh.; DAVYDOV, Pavel Semenovich, inzh.; BLAY-VAS, Leonid Abrmovich, inzh.; LOSS', Pavel Moiseyevich, inzh.; KHA-CHATUROV, V.V., red.; LAVRENOVA, N.B., tekhn. red.

["Donets" marine radar station] Sudovaia radiolokatsionnaia stantsiia "Donets." By V.G.Ivanov i dr. Moskva, Izd-vo "Morskoi transport," 1961. 130 p. (MIRA 14:10)

(Radar in navigation)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

MAKSIMOV, Georgiy Alekseyevich; IVANOV, V.G., red.; SHAROVA, Ye.A., red. izd-va; MURASHOVA, V.A., tekhn. red.

[Designing airconditioning processes] Proektirovanie protsessov konditsionirovaniia vozdukha. Moskva, Gos.izd-vo "Vysshaia shkola," 1961. 96 p. (MIRA 15:1)
(Air conditioning)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

NESTERENKO, Aleksey Vladimirovich; LEBEDEV, P.D., doktor tekhn. nauk, prof., retsenzent; DROZDOV, V.F., kand. tekhn. nauk, dots., retsenzent; IVANOV, V.G., nauchnyy red.; MARTYNOV, A.P., red. izd-va; MURASHOVA, V.A., tekhn. red.

[Principles of thermodynamical calculations in air conditioning and ventilation] Osnovy termodinamicheskikh raschetov ventiliatsii i konditsionirovaniia vozdukha. Moskva, Vysshaia shkola, 1962. 354 p. (MIRA 15:9)

1. Zaveduyushchiy kafedroy "Otopleniya i ventilyatsii" Vsesoyuznogo zaochnogo inzhenerno-stroitel'nogo instituta (for Drozdov).
(Heating and ventilation) (Air conditioning) (Ventilation)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

L 06445-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) JD/GG/AT

ACC NR: AP6026725 SOURCE CODE: UR/0181/66/008/008/2507/2510

AUTHOR: Ivanov, V. G.

52
B

ORG: none

TITLE: Effect of surface recombination on the relaxation of photoconductivity during excitation with weakly absorbed radiation

SOURCE: Fizika tverdogo tela, v. 8, no. 8, 1966, 2507-2510

TOPIC TAGS: recombination, photoconductivity, carrier lifetime

ABSTRACT: The effect of surface recombination and spectral composition of the exciting radiation on the determination of the volume lifetime from the relaxation of photoconductivity was studied in p-type silicon. The spectral characteristics of the photocurrent were measured at room temperature and at a light intensity at which the lux-ampere characteristics of the photocurrent were linear for strong and weak light absorption. The temperature dependence of the effective lifetime was determined. For all samples with polished surfaces, the surface recombination rate values were found to be approximately the same and equal to 105 cm/sec. Within the limits of experimental error, the temperature dependences of the lifetime were the same for polished and variously etched surfaces. It is concluded that the measured lifetime was equal to the volume lifetime under the chosen experimental conditions. Orig. art.

Card 1/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

L 06445-67

ACC NR: AP6026725

has: 2 figures and 2 formulas.

SUB CODE: 20/ SUBM DATE: 23Dec65/ ORIG REF: 006/ OTH REF: 001

Card 2/2 pla

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G.

"Ontogenesis of the Difference in Excitability of Male and Female and Ratio of the Sexes of Chickens." Cand Biol Sci, Leningrad State Pedagogical Inst, Leningrad, 1954. (RZhBiol, No 7, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G.

USSR/ Biology - Physiology

Card 1/1 Pub. 22 - 58/60

Authors : Ivanov, V. G.

Title : Different sensitivity of males and females of chicken embryos

Periodical : Dok. AN SSSR 100/4, 829-832, Feb 1, 1955

Abstract : Analysis of the death of chicken embryos at various stages of development led to a conclusion that the male and female embryos acquire different sensitivities toward harmful effects of the medium only during the 12th-13th day of incubation. The prevalence of the females among the dead embryos is explained by their longer exposure to the unfavorable conditions. Nineteen references: 3 USA and 16 USSR (1920-1953). Table; graph.

Institution : The A. I. Gertsen State Pedagogical Institute, Leningrad

Presented by: Academician E. N. Pavlovskiy, November 5, 1954

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G.

USSR/ Miscellaneous - Agriculture

Card 1/1 Pub. 22 - 47/49

Authors : Ivanov, V. G.

Title : Time of egg storage and its effect on the breed of chicken

Periodical : Dok. AN SSSR 100/5, 1021-1023, Feb 11, 1955

Abstract : The time of egg storage and its effect on the breeding of chicken (incubator breeding) was investigated and the results are described. Seven USSR references (1926-1954). Table; graph.

Institution : The I. I. Gertsen State Pedagogical Institute, Leningrad

Presented by: Academician E. N. Pavlovskiy, November 5, 1954

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G.

USSR / General Biology. Individual Development B-4

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 291

Author : Ivanov, V.G.

Inst : Not Given

Title : Emergence of Differential Sex Sensitivity in Hen Ontogenesis.

Orig Pub : Uch. zap. Leningr. gos. ped. in-t, 1955, 110, 67-74

Abstract : Two thousand six hundred and sixty-three (2663) hen fetuses which died at different stages of incubation from the 9th to the 21st day were analyzed. At 9-11 days ♂♂ and ♀♀ fetuses die in approximately the same proportions. At 12-18 days the death of males exceeds that of females by 20.4-26.4%. However at 19-21 days 17.8% more ♀♀ die than ♂♂. All the variations were statistically reliable. Injured ♂♂ perish earlier than ♀♀, which continue to live up to the last critical period. The tissue injuries were examined in 189 fetuses 9 to 21 days old. The degree of injury was determined by the quantity of adsorbed vital stain. On the 9th day

Card : 1/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

USSR / General Biology. Individual Development B-4

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 291

of development the ♀♀ [probably should be ♂♂] heart muscle combines with the stain to a larger degree than the heart muscle of the ♀♀. Beginning with the 11th day of development all male tissues combine more actively with the stain than female ones and, consequently, are damaged more.

Card : 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., dotsent, kand. biolog. nauk; DMITRIYEV, V.V.

Birds of prey of the Kabardino-Balkar A.S.S.R. Uch. zap. Kab-Balk. gos. un. no.10:101-173 '61. (MIRA 17:6)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., dotsent, kand. biolog. nauk; BAZIYEV, Zh.Kh.

Biology of the Caucasian snow cock (Tetraogallus caucasicus Pall.) in the Kabardino-Balkar A.S.S.R. Uch. zap. Kab.-Balk. gos. un-ta 10:175-192 '61. (MIRA 17:6)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G.

Difference in the mortality of young male and female turkeys in the embryonal and postembryonal periods. Uch.zap. Kab.-Balk. gos. un. no.14:140-148'62. (MIRA 16:6)
(TURKEYS) (SEX (BIOLOGY))

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

ACCESSION NR: AP4018366 S/0120/64/000/001/0061/0068

AUTHOR: Bogomolov, A.V.; Budagov, Yu. A.; Vasilenko, A.T.; Dzhelepov, V.P.; Dmitriev, N.I.; Ivanov, V.G.; Kladnitskiy, V.S.; Lepilov, V.I.; Lomakin, Yu. F.; Nikolaev, V.I.; Flyagin, V.B.; Shetet, T.I.; Shlyapnikov, P.V.

TITLE: Meter-long bubble chamber in a magnetic field

SOURCE: Pribory* i tekhnika eksperimenta, no. 1, 1964, 61-68

TOPIC TAGS: bubble chamber, meter long bubble chamber, 10 Gev particle beam, bubble chamber in magnetic field, electromagnet bubble chamber

ABSTRACT: A bubble chamber with a sensitive volume of 1x0.5x0.38 m is described. The chamber is intended for studying the particle beams up to 10 Gev obtained from the OIYaI proton synchrotron. The chamber design was described earlier (Yu. A. Budagov, et al. International Conference on High-Energy Acceleration and Instrumentation, Berkeley, 1960); more details are supplied in the present article. Propane or some other liquid suitable for a particular experiment may serve as a working fluid. The chamber is placed in a 17-kilo-oersted magnetic field derived from a 2,200-kw electromagnet. The error in a

Card 1/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

ACCESSION NR: AP4018366

5-Gev/s-pulse measurement, evaluated from multiple scattering in propane, is ± 3.2%. In 1963, the chamber was installed at the output of the magnetic circuit of a π^--meson beam whose energy lies between 4 and 7 Gev. "The authors consider it their duty to thank V. N. Sergiyenko, N. I. Frolov, K. A. Baycher, and the personnel of the experimental shop for their help in building the outfit. The authors are thankful to V. I. Veksler, N. I. Pavlov, and I. V. Chuvilo for their assistance in constructing the magnetic circuit of the π^--meson beam. We are indebted to A. S. Strel'tsov, B. Ye. Gritskov, B. V. Rozhdestvenskiy, and L. N. Fedulov for designing and building the magnet. The authors are deeply grateful to V. P. Moshkov, V. A. Lebedev, and S. P. Zunin who spent much effort and skill in all stages of constructing and aligning the outfit." Orig. art. has: 8 figures.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Institute of Nuclear Studies)

SUBMITTED: 22Mar63 DATE ACQ: 18Mar64 ENCL: 00

SUB CODE: NS NO REF SOV: 003 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

ACCESSION NR: AP4033105 S/0120/64/000/002/0046/0050

AUTHOR: Budagov, Yu. A.; Dzhelepov, V. P.; Ivanov, V. G.; Lomakin, Yu. F.; Flyagin, V. B.; Shlyapnikov, P. V.

TITLE: Hydrodynamics of bubble chambers

SOURCE: Pribory* i tekhnika eksperimenta, no. 2, 1964, 46-50

TOPIC TAGS: hydrodynamics, nuclear research, bubble chamber, bubble chamber theory

ABSTRACT: The hydrodynamics of the process of expansion in a typical bubble chamber is mathematically described. The pressure variation along the chamber-neck axis is:

$$\frac{\partial \mathcal{P}}{\partial x} = -\rho \frac{\partial w}{\partial t} \mp \rho w \frac{\lambda_\Sigma w}{2D},$$

where w is the velocity of the incompressible (ρ = const) liquid in a constant cross-section $F = \pi D^2/4$ tube. After linearization and simplification, the equation yields this solution: $P(t) = \left(P_0 \cos \omega t + P_0 \frac{b}{\omega} \sin \omega t\right) e^{-bt}$. Here, the ratio b/ω

Card 1/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

ACCESSION NR: AP4033105

is a dimensionless parameter that characterizes the role of friction in a bubble chamber. For practical chambers, the condition $b/\omega \ll 1$ can be represented by $(V_0/D^3) \ll 3{,}000$. The gas expansion (as the pressure changes) occurs simultaneously with the liquid expansion in the chamber. This combined process is also described by a set of equations from which design formulas are derived. The method was used to design a 1-meter bubble chamber in the Joint Nuclear Research Institute. "The authors are indebted to I. A. Charny*y for his attention and numerous useful discussions which greatly helped in formulating and solving some of the problems in the hydrodynamics of transient motion." Orig. art. has: 1 figure and 17 formulas.

ASSOCIATION: Ob"yedinenny*y institut yaderny*kh issledovaniy (Joint Nuclear Research Institute)

SUBMITTED: 01Jun63 DATE ACQ: 11May64 ENCL: 00

SUB CODE: NS NO REF SOV: 005 OTHER: 002

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

BUDAGOV, Yu.A.; DZHELEPOV, V.P.; IVANOV, V.G.; LOMAKIN, Yu.F.; FLYAGIN, V.B.; SHLYAPNIKOV, P.V.

Hydrodynamic study of the operating conditions of bubble chambers. Prib. i tekh. eksp. 9 no.5:55-60 S-O '64. (MIRA 17:12)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

L 33257-66

ACC NR: AT6012787 SOURCE CODE: UR/3175/66/000/027/0093/0100

AUTHOR: Ivanov, V.G.; Natadze, A.L.

ORG: TsNII

TITLE: Analysis of the transfer properties of magnetometer with a sounding ferromagnetic sensor

SOURCE: USSR. Gosudarstevennyy geologicheskiy komitet. Osoboye konstruktorskoye byuro. Geofizicheskaya apparatura, no.27, 1966, 93-100

TOPIC TAGS: magnetometer, ~~magnetometer response~~, magnetic detection, ~~magnetic sensor~~

ABSTRACT: The main purpose of this paper is to develop a transfer operator and to find the impulse response of a ferromagnetic sensor magnetometer, as a substitute for the transfer function of a linear system. Under the assumption that the sensor is excited by a sinusoidal field, $H = H_m \cdot \sin \omega_0 t$, sufficiently high to reach sensor saturation at the extremes, and that the signal acting on the sensor, H_x, is small, $H_x \ll H_m$, the voltage output of the sensor is written as

$e = k\,(d/dt).(\mu H_x)$ (1) where k is a constant and $\mu = dB/dH$ (2) is the dynamic permeability.
The magnetometer block diagram is given in Fig. 1. By tracing the transformations of an input at a single given frequency, $x(t) = H.\exp(j(\omega t + \varphi) = H^*\exp(j\omega t)$ (3) thru

Card 1/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., inzh.

More concerning a circuit for automatic switching-off of the transmitter of the ZhR-3 transmitter-receiver. Avtom., telem. i sviaz' 9 no.11:39 N '65. (MIRA 18:12)

1. Dorozhnaya radiolaboratoriya Sverdlovskoy dorogi.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

DAVYDOV, V.A.; IVANOV, V.G.

Quality of pipe cast by the semicontinuous method in relation to the gas content of cast iron. Lit. proizv. no.3:6-8 Mr '64. (MIRA 18:9)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

SVALOV, S.I.; IVANOV, V.G., inzh.; POPOV, M.M., inzh.

Improvement of ShRPS-62 and BRPS-62 equipment. Avtom., telem. i sviaz' 8 no.12:24-28 D '64. (MIRA 18:1)

1. Nachal'nik dorozhnoy radiolaboratorii Sverdlovskoy dorogi (for Svalov). 2. Dorozhnaya radiolaboratoriya Sverdlovskoy dorogi (for Ivanov, Popov).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IV-NOV, V.G., kand. tekhn. nauk; KHAKHALIN, B.T., kand. tekhn. nauk

Stability of cast iron pipe for water pipelines. Mest. i gorkhoz. upravl. no.4:17-19 Ap '65. (MIRA 18:5)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G., Engr. Cand. Tech. Sci.

Dissertation: "Industrialization of the Works for Installation of Heating and Sanitary System." Moscow Order of the Labor Red Banner Construction Engineering Inst imeni V. V. Kuybyshev, 10 Feb 47.

SO: Vechernyaya Moskva, Feb, 1947 (Project #17836)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

1. IVANOV, V.G.; YUFEREV, B.I.

2. USSR (600)

4. Gravel

7. Over-all mechanization of operations in a large-scale gravel pit, Mekh.trud.rab. 7 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953. Unclassified.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G. (Aspirant)

"Methods of Performing Work on the Spanned Beds of Rivers With Stone Bankets."
Cand Tech Sci, Moscow Order of Lenin Power Engineering Inst imeni V. M. Molotov,
27 Dec 54. (VM, 14 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)

SO: SUM No. 556, 24 Jun 55

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G

IZBASH, S.V., professor, doktor tekhnicheskikh nauk; KHALDRE, Kh.Yu., inzhener; IVANOV, V.G., inzhener.

Rock fill for blocking river channels with abundant water. Gidr.stroi. 23 no.4:12-14 '54. (MLRA 7:7)
(Barrages)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., assistent; AKHRAP, S.K., assistent.

Generalization of findings on damming river channels with rock fill. Trudy MEI no.19:294-328 '56. (MLRA 10:1)

1. Kafedra proizvodstva rabot po stroitel'stvu gidrotekhnicheskikh sooruzheniy. (Dams)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., kand.tekhn.nauk; KUPERMAN, V.L., inzh.; KHUKHLAYEV, G.A., inzh.

Experience in damming large rivers in the U.S.A. Energ.stroi. no.4:71-78 '58. (MIRA 12:2)

1. Moskovskiy energeticheskiy institut (for Ivanov). 2. Glavgidroenergostroymontazh (for Kuperman, Khukhlayev).
(United States--Dams)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G.

Reasons for alterations in sanitary installations. Gor. khoz. Mosk. 32 no.4:6 Ap '58. (MIRA 11:4)

1. Rukovoditel' gruppy sanitarnoy tekhniki Nauchno-issledovatel'skogo instituta Mosstroya.
(Pipe)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

8(6), 14(6)

AUTHOR: Sokolov, V. A., Ivanov, V. G., Engineers

SOV/98-59-7-6/22

TITLE: Spanning the Naryn River on the Site of the Uch-Kurgan GES by Pioneer Methods

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1959, Nr 7, pp 27 - 32 (USSR)

ABSTRACT: Fig 1 shows the spillway which was cut round the original course of the river to enable preliminary construction work on the GES to be carried out, and the positions of the upper and lower cofferdams and bankets are marked. The pioneer method used to span the river was as follows: prior to the construction of the upper cofferdam, two bankets were built at an interval of 70m., and a third banket was constructed at the site of the lower cofferdam in order to reduce the water level at the other bankets. Simultaneously, the final work was being done on the construction and clearance of the spillway, in order to provide for a complete diversion of the river's course. A brief description is given of the machinery and transport used, which consisted of EKG-4 and SE-3 excavators, dump-trucks, K-51 cranes and bulldozers, and the pro-

Card 1/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Spanning the Maryn River on the Site of the Uch-Kurgan GES by Pioneer Methode

blems of the integration and organization of the mechanized equipment are dealt with at some length. The MAZ-525 automatic dumper was found to be especially suited to pioneer work, due to its capacity and high ground clearance. As the stream flow in the spillway reached 88m^3/sec, the stone/gravel mixture used in the construction of the upper banket was replaced by 5-ton concrete blocks. The water level at the upper banket rose in proportion to the progress made in its construction, and finally work was transferred to the lower one, but this had to be redirected to the upper banket due to the fast rise in the water-level there, which was washing away the material already dumped. The careful dumping of concrete blocks in pressure points helped to counteract this, but since the increase in the water level at the upper banket was still 2.60m, the dumping process had to be speeded up considerably, the concrete blocks being tied together in groups of up to 5. The work on the 54.5m long upper banket was finally com-

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

SOV/38-59-7-6/22

Spanning the Naryn River on the Site of the Uch-Kurgan GES by Pioneer Methode

pleted in 25 hours. Figures concerning the amount of material used in the operation are given, in addition to various conclusions drawn, the main one being that such pioneer methods can only be applied when the stream flow is less than 230m^3/sec. There is 1 photograph, 1 diagram, and 1 graph.

Card 3/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

RAZIN, N.V., red.; IVANOV, V.G., red.; ROZANOV, K.L., red.; MAR'YANSKIY, L.P., red.; FRIDKIN, A.M., tekhn. red.

[Concreting techniques in the construction of hydroelectric power stations, materials] Tekhnologiia betonnykh rabot na stroitel'stvakh gidroelektrostantsii; materialy. Moskva, Gosenergoizdat, 1962. 159 p. (MIRA 15:8)

1. Soveshchaniye po obmenu opytom betonnykh rabot na stroitel'stvakh gidroelektrostantsii, Bratsk, 1960. 2. Glavnoye upravleniye po stroitel'stvu gidroelektrostantsiy i elektrosetey (for Razin).

(Hydroelectric power stations)
(Concrete construction)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

SOKOLOV, V.A., inzh.; IVANOV, V.G., kand.tekhn.nauk

Rediverting the Naryn River onto concrete structures. Gidr. stroi. 32 no.5:6-9 My '62. (MIRA 15:5)
(Uch-Kurgan Hydroelectric Power Station)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., kand.tekhn.nauk

Internal vibrators for hydraulic construction. Gidr.stroi. 32 no.7:14-18 Jl '62. (MIRA 15:7)
(Vibrators) (Hydraulic structures)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.C. --

"Investigation of the Duplex Method of Melting Steel for Intricate Castings," Cand Tech Sci, Central Sci-Res Inst of Technology and Machine Building, Moscow, 1953. (RZhKhim, No 20, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

SO: Sum, No. 481, 5 May 55

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., kandidat tekhnicheskikh nauk; KRYANIN, I.R., kandidat tekhnicheskikh nauk; LADYSHENSKIY, B.N., kandidat tekhnicheskikh nauk.

Overheating of low Bessemer steel. Lit.proizv. no.4:31-32 Ap '56. (MLRA 9:7)
(Bessemer process)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V G

PHASE I BOOK EXPLOITATION 322

Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i Mashinostroyeniya.

Vyplavka stali dlya fasonnogo lit'ya (Making of Steel for Shaped Castings) Moscow, Mashgiz, 1957. 142 p. (Its: [Trudy] kn. 86) 3,600 copies printed.

Ed.: Kryanin, I. R., Candidate of Tech. Sciences; Tech. Ed.: El'kind, V. D., Managing Ed. for literature on heavy machine building (Mashgiz): Golovin, S. Ya.

PURPOSE: This collection of articles is intended for workers in various branches of the machine-building industry. It may also be used by metallurgical research institutions and by students of the technology of steel production.

COVERAGE: The articles in this collection describe the experimental work done by the Tsentral'nyy Nauchno-Issledovatel'skiy Institut Tekhnologii i Mashinostroyeniya (Central Scientific Research Institute of Technology and Machine Building) in developing new melting and casting methods for various

Card 1/5

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

carbon and alloy steels to be used in the manufacture of hollow-shaped forgings. Experiments with various furnaces, in particular with the combined Bessemer basic-electric furnace, are described and evaluated in detail. There are 47 references, 37 of which are Soviet, 6 German, 1 French, and 3 English.

TABLE OF CONTENTS:

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Making of Steel for Shaped Castings

The author describes experiments dealing with the removal of S and Ph in a side blown Bessemer process. It is said that the amount of S can be reduced by 24.2% and the amount of Ph can be reduced by 24.5%. The temperature of the molten pig iron and the water content of the blown air are claimed to be important factors in this process. There are 5 Soviet references.

Ivanov, V. G., Candidate of Technical Sciences. Study of a Combination Method of Steel Making. 30

Easy removal of Ph and S from converter steel in an electric furnace permits the use of all types of scrap irrespective of Ph and S content. The greater speed and efficiency of the electric furnace makes it suitable for pouring on a conveyor belt. There are 10 references, 8 Soviet and 2 German.

Gorozhankin, A. N., Candidate of Technical Sciences, Bashmakov, A. D., Engineer. Problems of Steel Making in a Uniflow Furnace of Limited Capacity 66

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

The authors stress the need for a furnace of limited capacity in steel foundries. For this purpose an experimental furance was developed with a capacity of up to 1 ton. This furnace is said to be slow in reaching operational temperatures; there is also a loss of heat due to the small amount of metal in each charge. Ph and Mg impurities also present a problem. This furnace needs further development and de-bugging before it can be employed on industrial scale. There are 6 references, 5 Soviet, 1 English.

Kraskovskiy, S. V., Candidate of Technical Sciences. Decarbonization and Dephosphorization of Steel by Means of Air- Oxygen Mixtures 84

To speed up the production of steel it is necessary to improve the process of decarbonization and dephosphorization of steel. Oxygen-enriched air with powdered limestone was blown into the bath of an electric furnace. The author claims that this method is quicker, eliminates the use of iron ore, and produces steel of good quality.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

. Making of Steel for Shaped Castings 322

The equipment required is said to be simple and expensive. There are no references.

Novitskiy, V. K., Candidate of Technical Sciences. Study of Casting Methods and Structure of Hollow Steel Castings 107

The author states that the quality of hollow castings is often unsatisfactory. Slow crystallization is said to present many problems. The experiments deal with the various cores for hollow castings. It was experimentally determined that cores made of thin-walled steel tubes with a cooling arrangement give the best results. There are 16 references, 14 Soviet, 2 English.

AVAILABLE: Library of Congress

Card 5/5

GO/vm
June 3, 1958

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

SOV/137-58-8-16519

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 41 (USSR)

AUTHOR: Ivanov, V.G.

TITLE: On the Behavior of Sulfur and Phosphorus in the Converter Process (O povedenii sery i fosfora v konverternom protsesse)

PERIODICAL: V sb.: Vyplavka stali dlya fasonnogo lit'ya. Moscow, Mashgiz, 1957, pp 21-29

ABSTRACT: Investigations performed indicate that it is possible to reduce significantly the content of S and P in metal by employing an acidic, side-blown, Bessemer converter. After blowing, the contents of S and P diminished by 24.3% and 24.59% on average, respectively. 18.5% of S and 2.79% of P pass into slag, while 5.8% of S and 21.8% of P are carried off in gases which are escaping from the retort. Burn-off of the S in the converter is assisted by low temperature of the initial cast iron, increased quantities of Mn contained in it, and the fact that the smelting process proceeds at relatively low temperatures. The latter condition is responsible for the consumption of P as well. It is assumed that in connection with increased humidity of blowing, the P is removed also in the form of phosphine, PH_3. V.I.

Card 1/1

1. Sulfur--Reduction 2. Phosphorus--Reduction 3. Furnaces--Performance

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

137-58-6-11781

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 6, p 83 (USSR)

AUTHOR: Ivanov, V.G.

TITLE: Investigation of a Method of Making Steel by a Combination of Processes (Issledovaniye kombinirovannogo sposoba vyplavki stali)

PERIODICAL: V sb.: Vyplavka stali dlya fasonnogo lit'ya. Moscow, Mashgiz, 1957, pp 30-65

ABSTRACT: Experimental heats were run with a triplex process employing the following equipment: a cupola of 0.75-t/hr capacity, a side-blown 0.25-t converter (K) and a basic electric-arc furnace (AF) of 0.5-t capacity. The cupola charge included up to 80% steel scrap, while the amount of pig iron smelted in the cupola was based on the requirements of 4 K heats. The metal produced by three of these was combined and refined in the AF. In some K heats the metal was blown to 0.08-0.16% C, and then carburized in the AF by graphite, coke, electrode brickbats or pig iron. In other heats, the metal was blown in the converter so as to obtain a semifinished product for the AF having a [C] content close to that desired for the finished

Card 1/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

137-58-6-11781

Investigation of a Method of Making Steel by a Combination of Processes

steel. In this connection, certain K heats were deoxidized with Fe-Mn, Fe-Si, and Al before pouring into the AF. In the AF the heats were run over a charge of limestone on the hearth before the metal from the K was added, oxidation slag was skimmed, and the metal was deoxidized by Fe-Mn and Fe-Si in the furnace and by Al in the ladle. The duration of the blow in the K was 6-12 min, the rate of burn-off being 0.34% C per min; the temperature of the metal at the end of this period was ~1470°C (optical-pyrometer reading, uncorrected). The [P] in the AF before refining of the melt declined from 0.095 to 0.015% but rose again to 0.03% during the refining period. The [S] in the AF was reduced from 0.09 to 0.027%. The mechanical properties of the steel satisfied the technical specifications for cast shapes. The nonmetallic inclusions in the steel were 0.0137%, and [N] and [O] diminished during the heat in the AF from 0.0342 and 0.0339%, respectively, to 0.008 and 0.0046%. On the whole, the quality of the steel was not lower than that of regular electric steel. The duration of the heat in the AF and the power consumption were 50.97 and 53.6% lower than on smelting from solid charge in an AF. Bibliography: 10 references.

A.Sh.

1. Steel--Production 2. Steel--Materials 3. Furnaces--Operation

Card 2/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

KHAKHALIN, B.D.; IVANOV, V.G.

Industrial experience in improving the properties of cupola iron during its mixing. Lit. proizv. no.8:1-5 Ag '61. (MIRA 14:7)

(Cast iron—Metallurgy)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

BORODAYEVSKIY, Ye.T.; DVOSKIN, S.M.; KHAKHALIN, B.D.; IVANOV, V.G.

Use of steel water-cooled chills for the centrifugal casting of pipe. Lit.proizv. no.11:5-7 N '61. (MIRA 14:10)
(Centrifugal casting--Equipment and supplies)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

DAVIDENKOV, N.N.; LIKHACHEV, V.A.; IVANOV, V.G.

Scale effect in irreversible hot deformation. Fiz. met. i metalloved. 12 no.4:541-549 O '61. (MIRA 14:11)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Deformations (Mechanics))
(Metals, Effect of temperature on)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, Vladislav Grigor'yevich; KHAKHALIN, Boris Dmitriyevich; SHIYAN, Vladimir Grigor'yevich; NIKOLAYEVSKIY, Yu.I., retsenzent

[Steel molds for the centrifugal casting of pipe] Stal'nye formy dlia tsentrobezhnogo lit'ia trub. Moskva, Izd-vo "Metallugiia," 1964. 70 p. (MIRA 17:7)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G.

Characteristics of preparing the iron in semicontinuous pipe casting. Lit.proizv. no.10:9-11 O '64. (MIRA 18:4)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G., inzh. (Dnepropetrovsk)

Covering structures of precast concrete water reservoirs.
Vod.i san.tekhn. no.4:4-6 Ap '65.
(MIRA 19:1)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

AUTHOR: DZELEPOV,V.P., IVANOV V.G., KOZODAEV,M.G., OSIPENKOV,V.T., PETROV,N.I., RUSAKOV,V.A. PA - 2003

TITLE: Interaction between Negative Pions and Carbon-and Lead Nuclei in the Case of Energies of from 230 up to 250 MeV.

PERIODICAL: Zhurnal Eksperimental'noi i Teoret.Fiziki, 1956, Vol 31, Nr 6, pp 923-931 (U.S.S.R.)

Received: 1 / 1957 Reviewed: 3 / 1957

ABSTRACT: This work was carried out on the synchrocyclotron of the Institute for Nuclear Problems of the Academy of Sciences in the USSR; it investigates the interaction mentioned in the heading by the method of the WILSON chamber which is located in a magnetic field.

The experimental device and the method for the treatment of the photographs: A graphite target served as a source for negative pions; it was arranged in the chamber of the accelerator within the circulating bundle of the 670 MeV protons. The 230-250 MeV pions emitted in a forward direction from the target were directed by means of a large collimator and a deflecting magnet towards a WILSON chamber situated behind a concrete shield. In the chamber a plate of the material to be investigated was mounted under an angle of 90° with respect to the direction of the incident bundle of pions. The traces were photographed by means of a stereo camera. - Experimental results: 760 cases of 6000 photographs were found to represent cases of nuclear interaction between pions and carbon, and 629 others represented cases of interaction between pions and lead. Examples of such interactions are supplied in form of attached photographs. The following facts were

CARD 1 / 2

Submitted:

AVAILABLE: Library of Congress.

CARD 2 / 2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1852
AUTHOR IVANOV,V.G., PETROV,N.I., RUSAKOV,V.A., BUDAGOV,JU.A., OSIPENKOV,V.T.
TITLE Showers in Lead which are Produced by Electrons with the Energy of 360 ± 30 MeV.
PERIODICAL Žurn.eksp.i teor.fis,31,fasc.6, 1095-1096 (1956)
Issued: 1 / 1957

The data on electron showers published by the present report were determined in the course of the investigation of the results obtained by experiments carried out for the purpose of studying the interaction between negative pions and lead nuclei. The experiments were carried out with the synchrocyclotron of the Laboratory for Nuclear Problems by means of a WILSON chamber of 400 mm diameter in a magnetic field having a field strength of 10^4 Ørsted. The pion bundle passing through a lead plate (thickness 4,6 $g.cm^{-2}$) located inside the chamber contained (2 ± 1)% electrons. Therefore, also cases connected with the production of electron showers in the lead were photographically recorded besides acts of nuclear interaction. On this occasion 159 showers were registered which were excited by electrons with energies of from 330 to 390 MeV. An attached photograph shows such a shower. This number (159) does not include a few cases in which primary electrons came to a standstill in the lead plate, for it is practically impossible to separate them from the many pions which came to a standstill. When computing the number of particles contained in the showers only the secondary electrons with $E \geqslant 8$ were considered. By this

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

critical selection for secondary electrons such errors were eliminated as are connected with the existence of a background of electrons with low energies in the chamber.

The distribution of the showers over the number of particles, which was found in the course of the experiment, is shown in a table. For reasons of comparison the last column of this table shows the distribution of showers (corresponding to POISSON'S theorem) over the number of electrons. The average number of electrons in a shower according to the data given by the table amounts to 1,77. The energy distribution of the secondary electrons is illustrated by a table. Within the limits of measuring accuracy the average number of secondary electrons in the shower, which was obtained by the above measurements, agrees with the corresponding experimental results obtained by CH.A.O'ANDLAU, Nuovo Cim.,12, 859 (1954)) and also with the value obtained by R.B.WILSON, Phys.Rev.86, 261 (1952) by computing the electron cascade in lead by means of the MONTE CARLO method.

The above is a translation of this short report.

INSTITUTION: United Institute for Nuclear Research (The name of this institute appears here for the first time).

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G.

SUBJECT USSR / PHYSICS CARD 1 / 2 PA - 1853
AUTHOR IVANOV,V.G., OSIPENKOV,V.T., PETROV,N.I., RUSAKOV,V.A.
TITLE The Total Cross Sections of the Nonelastic Interaction of Negative Pions with the Nuclei of C,Al,Cu,Sn,and Pb at an Energy of 225 ± 10 MeV.
PERIODICAL Zurn.eksp.i teor.fis,31,fasc.6,1097-1097 (1956)
Issued: 1 / 1957

By making use of the synchrocyclotron of the Laboratory for Nuclear Problems the authors determined the above mentioned total cross sections. On the occasion of these measurements the losses of particles out of the bundle on the occasion of the passage of the particle through a scatterer made from the material to be investigated were determined. The average loss angle was 30°. The mesons were registered by means of a telescope consisting of three scintillation counters . The first and the second counter contained tolan crystals, and the third contained as scintillator a solution of terphenyl in toluene. With the help of the first two counters the pions inciding upon the scatterer were counted, whilst the third registered the particles passing through the scatterer. In front of the third scatterer there was a lead filter (thickness 5,85 g/cm^2) which was to absorb the heavy charged particles produced on the occasion of the interaction between the pions and the nuclei of the scatterer. For the purpose of determining the number of times that pions were lost out of the bundle, double and triple coincidences were counted at the same time. The energy of the pions inciding upon the scatterer as well as the total admix-

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

ture of myons and electrons were determined separately from measuring the curve of the absorption of pions in lead. These measurements were carried out under the same geometric conditions as in the case of the experiment described. The following results were obtained: The energy of the pions in the bundle amounts to 230 ± 6 MeV and the admixture of myons and electrons in the bundle is 12,5 ± 3%. The thickness of the scatterer was on the average 5-6 g/cm^2, and therefore the average energy of the pions, to which measurements of the cross sections refer, amounted to 225 ± 10 MeV.
Into the cross sections measured here corrections were introduced on the basis of the work by V.P.DŽELEPOV et al, Žurn.eksp.i teor.fis,31,fasc.6, 23 (1956), which took account of the following facts: a) the nonelastic scattering of pions into the angular range of from 0° to 30°, b) the elastic scattering of pions into the angular range of 30° to 180°, c) the fast secondary protons registered by the third counter. The total cross sections of the nonelastic interaction between pions and nuclei, which were found in this manner, are shown in a table. At an energy of 225 MeV these cross sections are equal to the geometric cross sections of the corresponding nuclei. Within the limits of measuring accuracy these results agree with those obtained by similar tests carried out by A.E.IGNATENKO et al., Dokl.Akad.Nauk, 103, 209 (1955).

INSTITUTION:

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G.

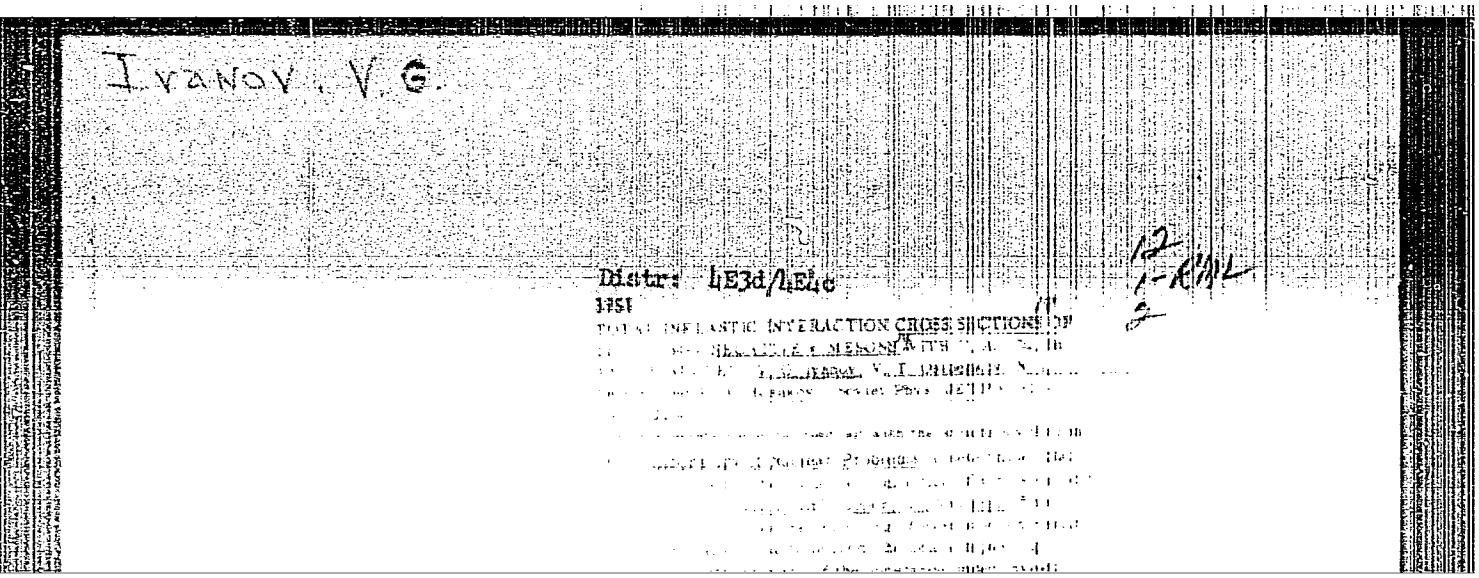
3819
INTERACTION OF 230-250 Mev NEGATIVE π-MESONS WITH CARBON AND LEAD NUCLEI, V. P. Dzhelepov, V. G. Ivanov, M. S. Kozodaev, V. I. Ostroumov, N. L. Petrov, and V. A. Rusakov (Academy of Science, USSR) Soviet Phys. JETP 4, 864-71(1957) July.

The interaction of 230 to 250 Mev negative pions with carbon and lead nuclei was investigated by the method of the Wilson chamber in a magnetic field. The total and differential cross sections for both elastic and inelastic scattering were determined, as well as the total cross section for all the inelastic scattering processes. Within the experimental errors, the elastic scattering is in agreement with the diffraction pattern of an opaque sphere. The energy spectrum of the scattered pions shows that the major part of the inelastic scattering between 0 and 180° is due to the collisions of the incoming pions with single nucleons in the nucleus. (auth)

Distr: 4E1c/4E3d

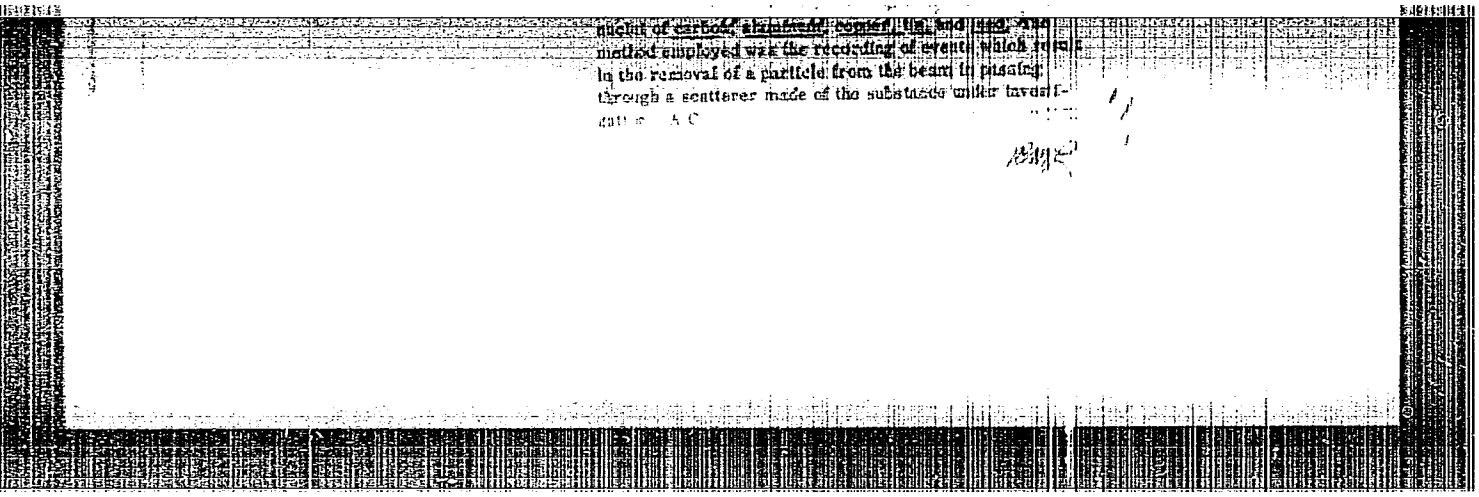
APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3



APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3



nuclei of carbon, aluminum, copper, tin, and lead. The method employed was the recording of events which result in the removal of a particle from the beam in passing through a scatterer made of the substance under investigation. A C

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G.

Distr: 4E3d

3734

SHOWERS IN LEAD PRODUCED BY 360 ± 30 Mev ELECTRONS. V. G. Ivanov, N. I. Petrov, V. A. Rusakov, [illegible] A. Rudakov, and V. T. Osipenkov (United Inst. for Nuclear Research). Soviet Phys. JETP 4, 934-5(1957) July.

Data on electron showers produced in Pb by 330 to 390 Mev electrons from the interaction of a beam of π mesons with the Pb are reported. (L.T.W.)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

21 (7), 21 (1)

AUTHORS: Ivanov, V. G., Osipenkov, V. T., Petrov, N. I., Rusakov, V. A.

SOV/56-37-3-47/62

TITLE: The Cross Sections of Elastic Scattering of Positive π-Mesons With Energies of 195 Mev by Carbon- and Lithium Nuclei

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 37, Nr 3(9), pp 863 - 866 (USSR)

ABSTRACT: Measurements of elastic scattering cross sections by means of a cloud chamber which was located in a magnetic field (13,500 Oe) were carried out on the synchrocyclotron of the Institute mentioned below (cf. the previous paper in reference 1). A polythene block (25g/cm^2), which was exposed to a 670-Mev proton beam, served as a π^+-source. The targets consisting of a natural isotope mixture had a thickness of 1.72 g/cm^2(C) and 0.8 g/cm^2(Li), respectively. The experimental method as well as the method of evaluating the photo records were the same as in reference 1. By taking into account the corrections concerning the accuracy of observation, 410 elastic meson scatterings on C-nuclei and 243 on Li-nuclei were

Card 1/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

The Cross Sections of Elastic Scattering of Positive π-Mesons With Energies of 195 Mev by Carbon- and Lithium Nuclei

SOV/56-37-3-47/62

recorded within the scattering-angle range of 10-180°. The following was obtained:

Nucleus	Pion Energy [Mev]	Sign of the Pion	σ_{elast} (10°)	πR^2
C	195	+	204 ± 26 mb	325
Li	195	+	156 ± 26 mb	226
C	230	-	200 ± 31 mb	325

The results are briefly discussed. They agree satisfactorily with the data calculated by other authors (among them Osipenkov and Filippov, Ref 3) on the basis of the optical model and square well interaction potential. For carbon the elastic scattering angle distribution measured in the course of the experiments is represented in figure 1, and for lithium in figure 2. The curves traced in full represent the angular distributions calculated according to the optical model in semi-

Card 2/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

The Cross Sections of Elastic Scattering of Positive π-Mesons With Energies of 195 Mev by Carbon- and Lithium Nuclei

SOV/56-37-3-47/62

classical approximation (calculated by means of the formulas taken from the book by Akhiyezer and Pomeranchuk, Ref 4). Calculation of the curves was carried out for a nuclear radius $R = 1.4\ A^{1/2} \cdot 10^{-13}$ cm, the absorption coefficient of the pions in nuclear matter K is assumed to be $0.83 \cdot 10^{13}$ cm, and the real part of the potential V to be zero (Curve A), 30 Mev (Curve B), and for curve V it is assumed that $K = \infty$ and $V = 0$. There are 2 figures, 1 table, and 7 references, 3 of which are Soviet.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: May 28, 1959

Card 3/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

PETROV, N.I.; IVANOV, V.G.; RUSAKOV, V.A.

Nonelastic scattering and absorption of π^+-mesons with energies of 195 15 MeV by carbon and lithium nuclei. Zhur. eksp.i teor.fiz. 37 no.4:957-965 O '59.
(MIRA 13:5)

1. Ob"yedinennyy institut yadernykh issledovaniy.
(Mesons)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

VAN GAN-CHAN [Wang Kang-ch'ang]; VAN TSU-TSZEN [Wang TS'u-TSeng]; DIN DA-TSAO [Ting Ta-ts'ao]; IVANOV, V.G.; KLADNITSKAYA, Ye.N.; KUZNETSOV, A.A.; NGUYEN DIN-TY; NIKITIN, A.V.; OTVINOVSKIY, S.Z.; SOLOV'YEV, M.I.

Creation of antiprotons in the interaction of π^--mesons with nucleons. Zhur.eksp.i teor.fiz 38 no.3:1010-1011 (MIRA 13:7)

1959

1. O"byedinennyy institut yadernykh issledovaniy.
(Protons) (Mesons) (Nucleons)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

VAN GAN-CHAN [Wang Kang-ch'ang]; VAN TSU-TSEN [Wang TS'u-tsēng]; VEKSLER, V.I.; VRANA, I.; DIN DA-TSAO [Ting Ta-ts'ao]; IVANOV, V.G.; KALDNITSKAYA, Ye.N.; KUZNETSOV, A.A.; NGUYEN DIN TY; NIKITIN, A.V.; SOLOV'YEV, M.I.; KHOFMOKL', T.; CHEN LIN-YAN'

Nonconservation of parity in strong interactions with participation of strange particles. Zhur. eksp. i teor. fiz. 39 no. 6:1854-1856 D '60. (MIRA 14:1)

1. Ob"yedinennyy institut yadernykh issledovatniy.
(Particles (Nuclear physics))

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V. G., LEPILOV, V. I., MOSKALEV, V. I., FLYAGIN, V. B., SHAFRT, T., BUDAGOV, YU. A., DZHELEPOV, V. P., DZHAKOV, N. I.,

"The One-Meter Propane Bubble Chamber in Magnetic Field"

paper presented at the Intl Conference on High Energy Physics, Rochester, N. Y. and/or Berkly California, 25 Aug - 16 Sep 1960.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

IVANOV, V.G.

82016
S/056/60/038/02/17/061
B006/B011

24.6600

AUTHORS: Van Gan-chan, Van Tsu-tszen, Din Da-tsao, Ivanov, V. G., Katyshev, Yu. V., Kladnitskaya, Ye. N., Kulyukina, L. A., Nguyen Din Ty, Nikitin, A. V., Otvinovskiy, S. Z., Solov'yev, M. I., Sosnovskiy, R., Shafranov, M. D.

TITLE: Investigation of the Elastic Scattering of π^--Mesons With a Momentum of 6.8 Bev/c on Protons by Means of a Propane Bubble Chamber

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 2, pp 426-431

TEXT: For the purpose of making a contribution to the problems of proton structure, the authors investigated the scattering of negative 6.8-Bev/c pions on protons (wave length $\lambda = 0.112 \cdot 10^{-13}$cm) in a 24-liter propane bubble chamber placed in a magnetic field of 13,700 oe. The experimental setup is shown in Fig. 1. The momentum distribution of π^--mesons was determined from 112 investigated tracks, and is shown in Fig. 2. The mean momentum was (6.8±0.6) Bev/c. A total of 3500 frames was interpreted, and

Card 1/4

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

82016

Investigation of the Elastic Scattering of π^--Mesons With a Momentum of 6.8 Bev/c on Protons by Means of a Propane Bubble Chamber

S/056/60/038/02/17/061
B006/B011

550 events were selected from all two-pronged stars. The measured values were processed by an electronic computer. The root-mean-square error in the angular determination was $\Delta\theta_\pi = 26'$ and $\Delta\theta_p = 1^\circ 14'$. The correction for track curvature did not exceed 20'. The elastic π^-p-scattering events were identified by the criteria discussed here: Coplanarity (Fig. 3); angular correlation (Fig. 4); recoil proton range. Among the 550 events investigated, 218 were regarded as being elastic. Fig. 5 shows the distribution of these 218 events along the chamber axis. In the so-called effective region of the chamber (43 cm with a total length of 55 cm), 213 out of the 218 events were recorded. The distribution of these 213 events according to the azimuthal angle of the recoil proton is shown in Fig. 6. In 113 cases the recoil proton track was on top, in 100 it was below, in 115 at the left, in 98 at the right. An estimation of the percentage of quasielastic scattering events in the total number of elastic ones 6%. The cross section of the reaction investigated was found to be

Card 2/4

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Investigation of the Elastic Scattering of π^--Mesons With a Momentum of 6.8 Bev/c on Protons by Means of a Propane Bubble Chamber

82016
S/056/60/038/02/17/061
B006/B011

$\sigma_{el}(\theta'_\pi > 6^0) = 3.75\ ^{+0.25}_{-0.55}$ mb, by taking into account a μ^- admixture of $(5\pm2)\%$, with a total π^- track length of $1.15 \cdot 10^6$ cm. θ'_π is the scattering angle in the center-of-mass system. The total π^-p interaction cross section was estimated as being (30 ± 5) mb. The final part of the present paper offers an analysis of experimental results on the basis of the optical model, with the proton being regarded as a homogeneous, sharply bounded sphere with a radius $R = 1.05 \cdot 10^{-13}$cm. The nucleonic absorption coefficient K is assumed to be $K = 0.71 \cdot 10^{13}$cm^{-1}. Results are compared with those yielded by experiments (Table, Figs. 7,8). The authors finally thank Academician V. I. Veksler and I. V. Chuvilo for their discussions, N. A. Smirnov, Ye. K. Kuryatnikov, Yu. I. Makarov, M. A. Samarin, L. Ya. Ivanova, and K. N. Radina for their assistance. There are 8 figures, 1 table, and 8 references: 2 Soviet and 6 American.

Card 3/4

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

82016

Investigation of the Elastic Scattering of π°-Mesons With a Momentum of 6.8 Bev/c on Protons by Means of a Propane Bubble Chamber

S/056/60/038/02/17/061
B006/B011

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: August 28, 1959

Card 4/4

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

88469

S/056/60/039/006/062/063
B006/B063

24.6900

AUTHORS: Van Gan-chan, Van Tsu-tszen, Veksler, V. I., Vrana, I., Din Da-tsao, Ivanov, V. G., Kim Khi In, Kladnitskaya, Ye.N., Kuznetsov, A. A., Nguyen Din Ty, Nikitin, A. V., Solov'yev, M. I., Khofmokl', T., Chen Lin-yan'

TITLE: Non-conservation of Parity in Strong Interaction Involving Strange Particles

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 6(12), pp. 1854-1856

TEXT: The authors wanted to obtain an experimental proof for the non-conservation of parity in strong interaction. The proof suggested by Solov'yev for the longitudinal polarization of a Λ^0 hyperon produced in nuclear collisions served as experimentum crucis. A number of experiments at low and medium energies failed. This "Letter to the Editor" presents the preliminary results of experiments with nuclear collisions and high energies. An analysis has been made of the angular asymmetries in decays of Λ^0 hyperons produced in π^-p collisions at 7-8 Bev. A total of

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

88469

Non-conservation of Parity in Strong Interaction Involving Strange Particles

S/056/60/039/006/062/063
B006/B063

34,000 photographs were taken, 14,000 at 6.8 Bev/c and 20,000 at ~8 Bev/c. Altogether, 175 Λ^0 and 33 Λ^0 or K^0 particles were detected; the systematic error in the 208 events was $\pm$ 6 particles. The asymmetry in the Λ^0 decay was studied in the coordinate system shown in the accompanying figure. The asymmetry in the ξ^* angular distribution is the up-down asymmetry ($\alpha\bar{P}_3$), that of θ^*_+ is the forward-backward asymmetry ($\alpha\bar{P}_1$), and that of ψ^* is the right-left asymmetry ($\alpha\bar{P}_2$). $\alpha\bar{P}_1$ was calculated from the formula $\alpha\bar{P}_1 = \frac{3}{N}\sum_{i=1}^{N} \cos\theta^*_i \pm \sqrt{3\left[1 - (\alpha\bar{P})^2\right]/N}$, where α is the asymmetry factor of the Λ^0 hyperons in the case of total polarization ($\bar{P} = 1$); $\bar{P}_1$ is the mean polarization of Λ^0; θ^* is the angle between the Λ^0 decay proton and the direction of motion of the Λ^0 particle. The other asymmetries were calculated analogously. Results are collected in Table 2. Right-left and up-down asymmetries were not observed. The forward-backward asymmetry obtained may indicate the non-conservation of parity in strong interaction for strange particle production; however, the present stage of investigation does not exclude all errors. The investigations

Card 2/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Non-conservation of Parity in Strong Interaction Involving Strange Particles

S/056/60/039/006/062/063
B006/B063

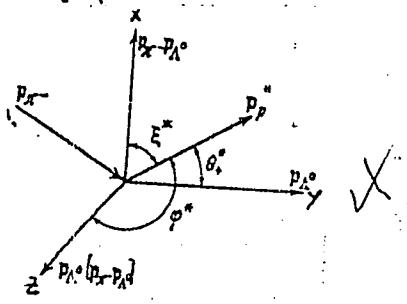
are being continued. There are 1 figure, 2 tables, and 8 references: 3 Soviet and 5 US.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 1, 1960

Таблица 2

p_{Λ^0}	N	$a\overline{P}_1$	$a\overline{P}_2$	$a\overline{P}_3$
$400<p_{\Lambda^0}\leqslant 1200$	104	$-0,58 \pm 0,15$	$0,00 \pm 0,17$	$0,03 \pm 0,17$
	104 + (4)	$-0,50 \pm 0,15$	$0,06 \pm 0,16$	$0,07 \pm 0,16$
	104 + (4) + (6)	$-0,37 \pm 0,15$		
$p_{\Lambda^0}>1200$	68	$-0,66 \pm 0,19$	$0,14 \pm 0,21$	$0,24 \pm 0,21$
	68 + (29)	$-0,09 \pm 0,17$	$0,06 \pm 0,17$	$0,21 \pm 0,17$
Все p_{Λ^0}	172	$-0,61 \pm 0,12$	$0,05 \pm 0,13$	$0,11 \pm 0,13$
	172 + (33)	$-0,31 \pm 0,12$	$0,00 \pm 0,12$	$0,12 \pm 0,12$
	172 + (33) + (6)	$-0,24 \pm 0,12$		



Card 3/3

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

S/056/61/040/002/012/047
B102/B202

AUTHORS: Wang Kang-ch'ang, Wang Ts'u-tseng, Veksler, V. I., Vrana, I., Ting Ta-ts'ao, Invanov, V. G., Kladnitskaya, Ye. N., Kuznetsov, A. A., Nguyen Din Ty, Nikitin, A. V., Solov'yev, M. I., Ch'eng Ling-yen

TITLE: Production of $\Lambda^0(\Sigma^0)$ hyperons and K^0 mesons in π^-p interactions with a π^- meson momentum of 6.8 $\pm$0.6 Bev/c

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 2, 1961, 464-474

TEXT: The $\Lambda^0(\Sigma^0)$ and K^0 production in π^-p collisions has hitherto been studied only for threshold momenta of (0.9 - 1.4) Bev/c; to explain the nucleon structure and the interaction, studies must be made at higher energies. The studies described were made with a 24-liter propane bubble chamber and a constant magnetic field of 13,700 oe. The experiment is described in Ref. 2 (ZhETF, 38, 426, 1960). The pictures were taken with a stereophotocamera with "Russarplazmat" objectives (focal length 67 mm). The pictures were evaluated 2 or 3 times with stereo-magnifiers and reprojectors.

Card 1/1

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Production of ...

In this case, efficiency was 91 and 96%. Λ^0 and K^0 particles were selected according to rigorous rules. Altogether, 233 events conforming to these criteria were observed: space coordinates, angles, and momenta of these events were calculated by the electronic computer "Ural". The values obtained were geometrically corrected (consideration of the observation probabilities for Λ^0 and K^0 decays in the chamber volume as well as for Λ^0 and K^0 production). The number of events, in which 0, 2, 4, or 6 charged particles were observed besides K^0 and/or Λ^0 particles are given in Table 1. The mean number of charged particles accompanying a Λ^0 or K^0 production was 2.5 ± 0.1; also $K^\pm$ mesons were observed among these charged particles. The neutral particles recorded were produced in the reactions

$$\pi^- + p \to \Lambda^0 + K^0 + n\pi \quad (1)$$
$$\pi^- + p \to \Sigma^0 + K^0 + n\pi \quad (2)$$
$$\pi^- + p \to \Lambda^0 + K^+ + n\pi \quad (3)$$
$$\pi^- + p \to \Sigma^0 + K^+ + n\pi \quad (4)$$
$$\pi^- + p \to K^0 + \overline{K^0} + N + n\pi \quad (5)$$
$$\pi^- + p \to K^0 + K^- + N + n\pi \quad (6)$$
$$\pi^- + p \to \overline{K^0} + K^+ + N + n\pi \quad (7)$$

Card 2/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

S/056/61/040/002/012/047
B102/B202

Production of ...

$\sigma(Y^0K^0) = \sigma(1) + \sigma(2)$, $\sigma(Y^0K^+) = \sigma(3) + \sigma(4)$, also the reactions

$\sigma(K^0\bar{K}^0) = \sigma(5)$, $\sigma(K^0K^-) = \sigma(6)$, $\sigma(\bar{K}^0K^+) = \sigma(7)$

$$\sigma(Y^0K^{0,+}) = \sigma(Y^0K^0) + \sigma(Y^0K^+),$$
$$\sigma(K^0, \bar{K}) = \sigma(K^0\bar{K}^0) + \sigma(K^0K^-) + \sigma(\bar{K}^0K^+).$$

$$\pi^- + p \rightarrow \Sigma^\pm + K^0 + r\pi \quad (8,9)$$
$$\pi^- + p \rightarrow \Xi^- + K^0 + K^+ + n\pi \quad (10)$$
$$\pi^- + p \rightarrow \Xi^0 + K^0 + K^0 + n\pi \quad (11)$$

were possible. In the following, the reactions are referred to only by these figures; the cross sections are indicated by (I). The total cross section of $\Lambda^0(\Sigma^0)$ and K^0 production on free protons was found to be 2.0 ± 0.35 mb taking account of all corrections, including the μ^- admixture and the efficiency of observation. In this case, $\sigma(Y^0K^{0,+}) = 0.8 \pm 0.25$ mb, $\sigma(K^0\bar{K}) = 1.2 \pm 0.3$ mb, $R = \sigma(Y^0K^{0,+})/\sigma(K^0\bar{K}) = 0.7 \pm 0.2$. Momentum and angular distributions are illustrated in several diagrams. The mean transverse momenta of Λ^0 and K^0 particles, 388 ± 35 and 393 ± 35 Mev/c, respectively, were equal within the limits of measurement errors. $Y^0K^{0,+}$ - and $K^0\bar{K}$ pair production cross sections: The experimental results indicate that at π^- energies of 9 Bev, the $K^0\bar{K}$ pair production cross section is higher than that of $Y^0K^{0,+}$. The ratio reads

Card 3/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Production of ...

$$R = \frac{\sigma(Y^0K^0) + \sigma(Y^0K^+)}{\sigma(K^0\bar{K}^0) + \sigma(K^0K^-) + \sigma(\bar{K}^0K^+)} = 0.7\pm0.2.$$

The authors only studied $K^0\bar{K}^0$, K^0K^-, and $\bar{K}^0K^+$, and obtained

$$R = \frac{\sigma(Y^0K^0) + \sigma(Y^0K^+)}{\sigma(K^0\bar{K}^0) + \sigma(K^0K^-) + \sigma(\bar{K}^0K^+) + \sigma(K^+K^-)} = 0.5\pm0.15.$$

Near the production threshold (0.96 Bev), $\sigma(Y^0K^0) = 1.1$ mb; it drops to 0.4 mb at 1.2 Bev, and increases again to 0.6 mb at 1.3 Bev. The ratio $\sigma(Y^0K)/\sigma(K^0\bar{K})$ was experimentally determined to be 0.7; the theoretically obtained value (statistical theory) was 7.5. Mean multiplicity of charged particles: At 6.8 Bev, not only strange particles but also charged and uncharged particles were produced. In the case of multiple pion production, the mean number of charged particles was $\bar{n}_s = 3.2\pm0.2$, and in strange-particle production, $\bar{n}_s = 2.5\pm0.1$. Pions constitute the main part of charged particles. It can be concluded from the energy balance in a production event that the number of pions produced together with a strange particle is lower than in the case of ordinary multiple pion production. This is in

Card 4/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Production of ...

agreement with the experimental results. The number of neutral pions accompanying strange-particle and normal multiple production is 2:3. 0.5 ± 0.12 was obtained for n_K. Angular and momentum distributions: The experimental results are illustrated in diagrams. In the center-of-mass system, the Λ^0 hyperons show a strong tendency to depart in backward direction ($n_{forw.}/n_{backw.} = 1:5$). This asymmetry was also observed in $\Lambda^0 K^0$ pair-production events. Table 4 gives numerical data concerning the angular distribution of Λ^0 and K^0 pairs in the c. m. s. Mesons produced together with Λ^0 hyperons show a forward anisotropy at $n_s = 2$ ($n_{\pi^-forw.}/n_{\pi^-backw.} = 1.7 \pm 0.5$). At higher values of n_s, this anisotropy is less distinct. Transverse momenta: One of the most interesting results was that Λ^0 hyperons and nucleons produced in inelastic collisions without strange-particle production had the same distribution and the same mean transverse momenta which are independent of multiplicity. The interaction radius in strange-particle production can be estimated from the root-mean-square transverse momenta. The authors obtained $4 \cdot 10^{-14}$ cm. They thank D. I. Blokhintsev, M. A. Markov, V. I. Ogiyevetskiy, Chou Kuang-chao, I. V. Chuvilo, V. S. Barashenkov, V. G. Solov'yev for discussion, L. P. Zinov'yev, N. I. Pavlov, K. B. Chekhlov,

Card 5/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

L. N. Belyayev for help in the experimental work, and T. Khofmokl' and Kim Khi Inu for assistance in the verification of the results. N. G. Birger and V. Belyakov are mentioned. There are 7 figures, 4 tables, and 9 references: 4 Soviet-bloc and 5 non-Soviet-bloc. The two references to English-language publications read as follows: Ref. 5: D. Glaser, Ann. Intern. Conf. on High Energy Physics at CERN, Geneva 1958; Ref 6: G. Maenchen, W. Fowler, W. Powell, R. Wright, Phys. Rev. 108, 850, 1957.

ASSOCIATION: Ob"yedinennyy institut yadernykh issledovaniy (Joint Institute of Nuclear Research)

SUBMITTED: September 1, 1960

Fig. 1: Momentum distributions of Λ^0 hyperons in the c. m. s.; a) total spectrum, b) that of backward (solid line) and forward (dashed line) emitted Λ^0 hyperons.
Fig. 2: Λ^0 angular distribution in the c. m. s.; number of events given in parentheses.

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

S/056/61/040/002/012/047
B102/B202

Production of ...

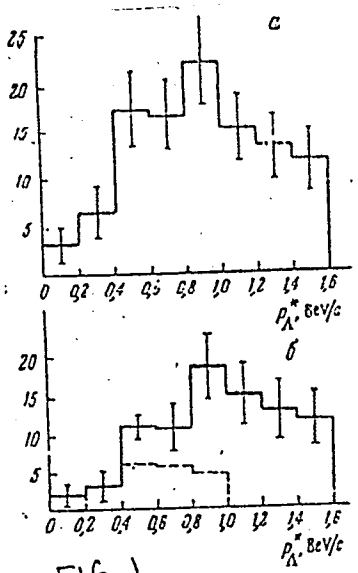


FIG-1

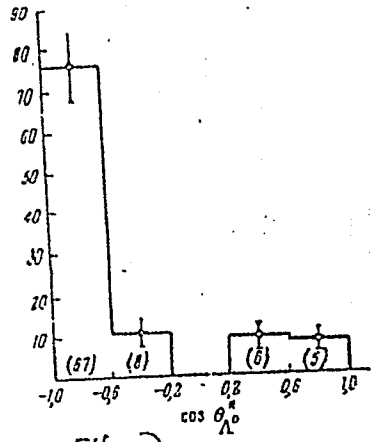


FIG-2

Card 7/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

Production of ...

Fig. 3: K^0 momentum distributions in the c. m. s.; a) total spectrum, b) spectrum of forward and backward emitted K^0 mesons.
Fig. 4: K^0 angular distributions, a) $n_s \leq 2$, b) $n_s \geq 4$.

Fig. 5: Angular distributions of π^- mesons in the c. m. s., a) multiple production of π^- by π^-; b) for π^- produced together with Λ^0; solid line: $n_s = 2 + 4 + 6$; dashed line: $n_s = 2$.
Fig. 6: π^- momentum distribution in the c. m. s.; a) and b) the same as in Fig. 5.
Fig. 7: transverse momentum distribution a) for Λ^0 hyperons, b) for K^0 mesons.

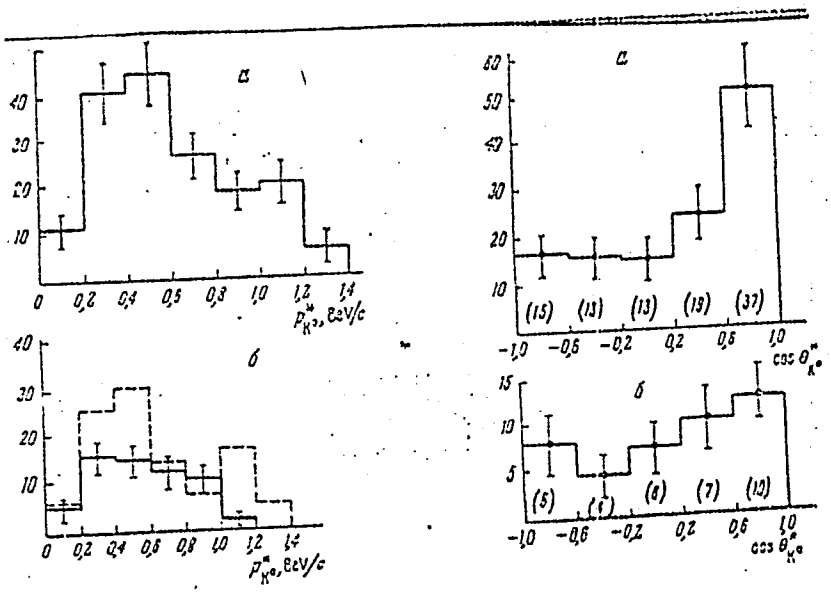
APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

S/056/61/040/002/012/047
B102/B202

Production of ...

Figs. 3 and 4



Card 9/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

S/056/61/040/002/012/047
B102/B202

Production of ...

Figs. 5 and 6

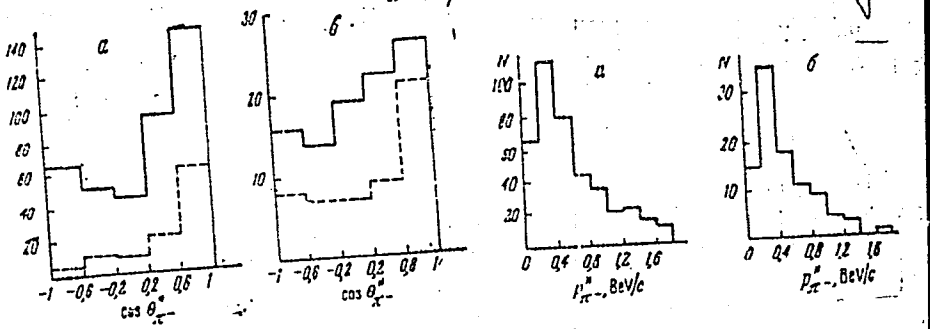
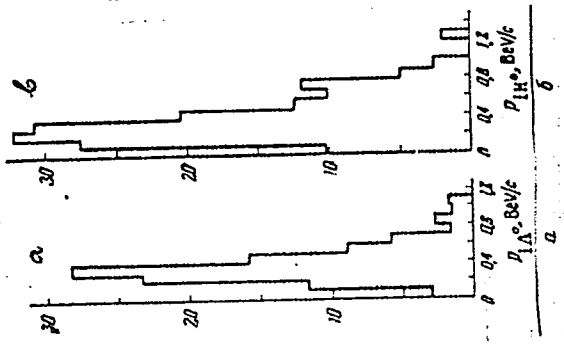


Fig. 7



Card 10/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

S/056/61/040/002/012/047
B102/B202

Production of ...

Legend to Table 1:
1) Identification of the particles, 2) sum, 3) number of charged particles.

Таблица 1

Идентифицированные частицы (1)	Число заряженных частиц, n_s (3)				
	0	2	4	6	Сумм. (2)
$\Lambda^0 + K^0$	2	8	3	0	13
Λ^0	6	47	17	3	73
$K^0 + \overline{K}^0$	0	5	1	0	6
K^0	16	62	26	3	107
Λ^0 или K^0	2	6	2	0	10
Сумма (2)	26 12,5%	128 61,6%	49 23%	6 2,9%	209 100%

Card 11/11

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"

"APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3

BUDAGOV, Yu.A.; DZHELEPOV, V.P.; IVANOV, V.G.; LOMAKIN, Yu.F.; FLAGIN, V.B.; SHLYAPNIKOV, P.V.

[Gas hydrodynamic design of the mechanism of pressure variation in a large-scale bubble chamber] Gidrogazodinamicheskii raschet mekhanizma izmeneniia davleniia bol'shoi puzyr'kovoi kamery. Dubna, Izd-vo Ob"edinennyi in-t iadernykh issledovanii, 1963. 18 p. (MIRA 16:10)
(Bubble chamber) (Fluid dynamics)

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000619120018-3"